

wherein

R is hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₁, R₂, R₃, R₄, R₅ and R₆ are each independently hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₇ is a divalent linking group or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical; and

n is an integer of 1 or greater;

wherein the macrodiol is a polysiloxane macrodiol, a polyether macrodiol, a polycarbonate macrodiol, or a mixture thereof;

and wherein the hard segment is formed from:

(i) a diisocyanate; and

(ii) a chain extender comprising the compound of formula (I)[,] and optionally a second chain extender[, or a combination thereof;

provided the soft segment is formed from the compound of formula (I); the hard segment is formed from the compound of formula (I); or the soft segment is formed from the compound of formula (I) and the hard segment is formed from the compound of formula (I)].

64. The composition of claim 63 wherein n is 1 to 4; the molecular weight of the compound of formula (I) is about 500 or less; and the compound of formula (I) functions as a chain extender.

72. (ONCE AMENDED) The composition of claim 70 wherein the diamine chain extender is 1,2-ethylenediamine; 1,3-propanediamine; 1,3-butanediamine; 1,6-hexanediamine; 1,2-diaminocyclohexane; [1,3-diaminocyclohexane] 1,3-diaminocyclohexane; or a combination thereof.

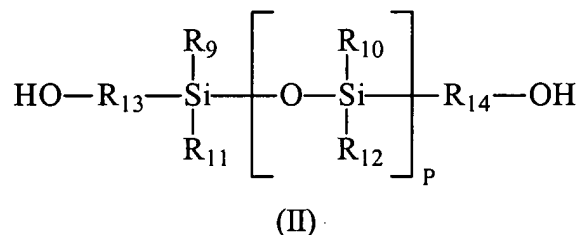
81. (ONCE AMENDED) The composition of claim 63 wherein n is about 5 to about 100; the number average molecular weight of the compound of formula (I) is about 500 to about 10,000;

and the soft segment is formed from the compound of formula (I).

82. (ONCE AMENDED) The composition of claim 81 wherein the compound of formula (I) is an amine-terminated [PMDS] polydimethylsiloxane (PDMS).

83. (ONCE AMENDED) The composition of claim 82 wherein the amine-terminated [PMDS] polydimethylsiloxane (PDMS) is bis(3-aminopropyl)-polydimethyl siloxane.

86. (ONCE AMENDED) The composition of claim 85 wherein the polysiloxane macrodiol is a compound [offormula] of formula (II):



wherein

R_9 , R_{10} , R_{11} , R_{12} , R_{13} and R_{14} are each independently an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical; and

p is an integer of 1 to [about] 100.

87. (ONCE AMENDED) The composition of claim 86 wherein the compound of formula (II) is [PMDS] polydimethylsiloxane (PDMS).

89. (ONCE AMENDED) The composition of claim 86 wherein the number average molecular weight of the compound of formula (II) is about 200 to about 6,000.

90. (ONCE AMENDED) The composition of claim 86 wherein the number average molecular weight of the compound of formula (II) is about 500 to about 2,000.

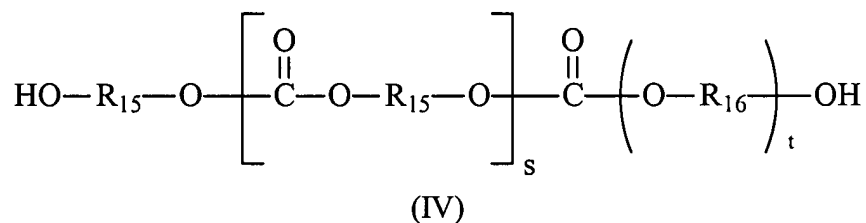
91. (ONCE AMENDED) The composition of claim 84 wherein the soft segment is formed from an amine-terminated [PMDS] polydimethylsiloxane (PDMS) and [PMDS] polydimethylsiloxane (PDMS).

93. (ONCE AMENDED) The composition of claim 92 wherein q is [about] 5 or higher.

96. (ONCE AMENDED) The composition of claim [85] 92 wherein the number average molecular weight of the compound of formula (III) is about 200 to about 5,000.

97. (ONCE AMENDED) The composition of claim 96 wherein the number average molecular weight of the compound of formula (III) is about 500 to about 1,200.

100. (ONCE AMENDED) The composition of claim 99 wherein the copolymer is a copoly(ether carbonate) macrodiol represented by the compound of formula (IV):



wherein

R_{15} and R_{16} are each independently an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical; and s and t are integers of 1 to [about] 20.

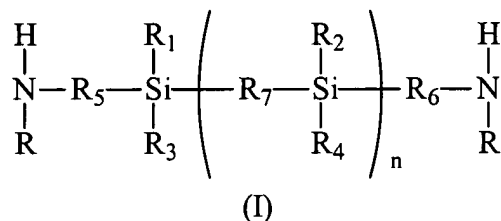
102. (ONCE AMENDED) The composition of claim 101 wherein the polyether macrodiamine is [POLAMINE 650] an amine terminated polytetramethyleneoxide.

104. (ONCE AMENDED) A polyurethane-urea elastomeric composition comprising a soft segment and a hard segment, wherein the soft segment is formed from:

- (i) a macrodiol comprising a polysiloxane macrodiol and a polyether macrodiol;

and wherein the hard segment is formed from:

- (ii) a diisocyanate; and
- (iii) a chain extender selected from the group consisting of a compound of formula (I):



wherein

R is hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₁, R₂, R₃, R₄, R₅ and R₆ are each independently hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₇ is a divalent linking group or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical; and

n is an integer of 1 to [about] 4;

the molecular weight of the compound of formula (I) is about 500 or less;

a diamine chain extender; 1,3-bis(3-aminopropyl)tetramethyldisiloxane; 1,3-bis(4-aminobutyl)tetramethyldisiloxane; 1,4-butanediol; 1,2-ethylenediamine; ethanolamine; hexamethylenediamine; 1,4-butanediamine; water; 1,4-bis(4-hydroxybutyl)tetramethyldisiloxane; and combinations thereof.

107. (ONCE AMENDED) The composition of claim [102] 104 wherein the weight percentage of the macrodiol in the composition is about 60 wt.% to about 40 wt.%.

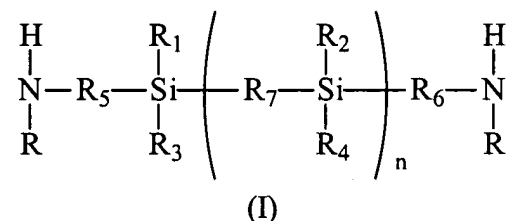
111. (ONCE AMENDED) A polyurethane-urea elastomeric composition comprising a soft segment and a hard segment, wherein the soft segment is formed from:

- (i) a macrodiol or a macrodiamine selected from the group consisting of a

polysiloxane macrodiol, a polyether macrodiol, a polyester macrodiol, a polycarbonate macrodiol[;] , a polyether macrodiamine[;] , and mixtures thereof;

and wherein the hard segment is formed from:

- (ii) a diisocyanate; and
- (iii) a chain extender comprising a compound of formula (I):



wherein

R is hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₁, R₂, R₃, R₄, R₅ and R₆ are each independently hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

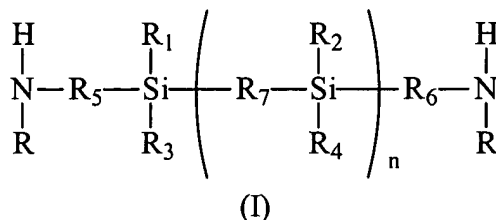
R₇ is a divalent linking group or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical; and

n is an integer of 1 to [about] 4; and

the compound of formula (I) has a molecular weight of about 500 or less.

112. (ONCE AMENDED) A polyurethane-urea elastomeric composition comprising a soft segment and a hard segment, wherein the soft segment is formed from:

- (i) a macrodiol comprising a polysiloxane macrodiol and a polycarbonate macrodiol; and the hard segment is formed from:
- (ii) a diisocyanate; and
- (iii) chain extender selected from the group consisting of a compound of formula (I):



wherein

R is hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₁, R₂, R₃, R₄, R₅ and R₆ are each independently hydrogen or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical;

R₇ is a divalent linking group or an optionally substituted straight chain, branched or cyclic, saturated or unsaturated hydrocarbon radical; and

n is an integer of 1 to [about] 4; and

the compound of formula (I) has a molecular weight of about 500 or less;

a diamine chain extender; 1,3-bis(3-aminopropyl)tetramethyldisiloxane; 1,3-bis(4-aminobutyl)tetramethyldisiloxane; 1,4-butanediol; 1,2-ethylenediamine; ethanolamine; hexamethylenediamine; 1,4-butanediamine; water 1,4-bis(4-hydroxybutyl)tetramethyldisiloxane; and combinations thereof;

wherein the level of hard segment in the composition is about 21.8 wt.% to about 60 wt.%.

117. (ONCE AMENDED) [The] A biomaterial that is manufactured from a composition of claim 63 [that is useful as a biomaterial].

118. (ONCE AMENDED) A medical device, article[s] or implant[s] composed wholly or partly of the composition of claim 63.

119. (ONCE AMENDED) The medical device, article[s] or implant of claim 118 which is a cardiac pacemaker, defibrillator, electromedical device, catheters, cannula, implantable prostheses, cardiac assist device, heart valve, vein valve, vascular graft, extra-corporeal device, artificial organ, pacemaker lead, defibrillator lead, blood pump, balloon pump, A-V shunt, biosensor, membranes for cell encapsulation, drug delivery device, wound dressing, artificial joint, orthopaedic implant, or soft tissue replacement.

121. (ONCE AMENDED) The device or article of claim 120 which is artificial leather, a shoe sole[;] , cable sheathing[;] , varnish, coating[;] , structural components for a pump, structural components for a vehicle[;] , mining ore screen, conveyor belt[;] , laminating compound, textile[;] , separation membrane[;] , sealants or a component of an adhesive.

Please add the following new claims 122-124:

122. (NEW) The medical device, article or implant of claim 118 that is resistant to cyclic flex fatigue.

123. (NEW) The medical device, article or implant of claim 118 that is resistant to degradation.

124. (NEW) The medical device, article or implant of claim 118 that is resistant to degradation *in vivo*.

REMARKS

Applicants have carefully reviewed and considered the Office Action mailed on November 29, 2001, and the references cited therewith.

Claims 63, 72, 81, 82, 83, 86, 87, 89, 90, 91, 93, 96, 97, 100, 102, 104, 107, 111, 112, 117, 118, 119, and 121 are amended; claims 109, 110, and 113-116 are canceled, and claims 122-124 are added; as a result, claims 63-108, 111-112, and 117-124 are now pending in this application.